Paper No. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte MARIUS HERT and PATRICE PERRET

Appeal No. 1999-0268
Application No. 08/650,608

HEARD: October 24, 2001

Before KIMLIN, GARRIS, and OWENS, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the examiner's final rejection of claims 1, 8 and 13, which are all of the claims remaining in the application.

THE INVENTION

The appellants' claimed invention is directed toward an article of manufacture comprising a specified thermoplastic composition. Claim 13 is illustrative:

> 13. An article of manufacture comprising a thermoplastic composition comprising a mixture of at least one ethylene polymer (A) which has units derived from unsaturated epoxy monomers or from unsaturated acid anhydride monomers,
> a first thermoplastic resin partially encapsulated within the continuous phase of the ethylene polymer, and
> a second thermoplastic resin wherein the continuous phase of the ethylene polymer is dispersed with the matrix defined by the second thermoplastic resin.

THE REFERENCES

Epstein (Epstein '859)	4,172,859	Oct. 30, 1979
Epstein (Epstein '358)	4,174,358	Nov. 13, 1979
Orikasa et al. (Orikasa)	5,157,070	Oct. 20, 1992
Sakazume et al. (Sakazume)	5,244,973	Sep. 14, 1993
Sano et al. (EP '280) (European patent application)	0 268 280	May 25, 1988

THE REJECTIONS

Claims 1 and 13 stand rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103 as obvious over either Sakazume or Orikasa, and claims 1, 8 and 13 stand rejected under 35 U.S.C. § 103 as obvious over EP '280 in view of Epstein '859 and Epstein '358.

OPINION

We reverse the aforementioned rejections.

Rejections over Sakazume

Sakazume discloses a thermoplastic resin composition which contains 1-99 wt% of a polyamide resin, 1-99 wt% of another resin selected from a specified group, and 0.1-100 parts by weight, based on 100 parts by weight of the above resins, of a multi-phase structure thermoplastic resin composed of 5-95 wt% of an acid group-containing olefin polymer or copolymer and 5-95 wt% of a vinyl polymer or copolymer obtained from at least one kind of vinyl monomer, either one or both components of the multi-phase structure being in the state of a dispersed phase having a particle diameter of 0.001 to 10 Fm (col. 3, lines 25-44; col. 10, lines 22-27).

The examiner argues that the disclosure by Sakazume that the olefin polymer or copolymer and the vinyl polymer or copolymer have a multi-phase structure is sufficient evidence that the vinyl polymer or copolymer remains partially encapsulated by the ethylene polymer or copolymer during the manufacture of the composition to shift the burden to the appellants to prove otherwise (answer, pages 5-6). The

examiner does not provide a separate rationale in support of the obviousness rejection.

Sakazume, however, teaches that the multi-phase structure is blended with the other components of the composition by melting and mixing (col. 3, line 45 - col. 4, line 10; col. 11, lines 1-48; col. 13, line 50 - col. 14, line 2), whereas the appellants' claims require that a thermoplastic resin matrix has dispersed therein a thermoplastic resin which is partially encapsulated by an ethylene polymer. The disclosure relied upon by the examiner regarding the multi-phase structure pertains to the structure before the melting and mixing. The examiner has not explained how Sakazume's multi-phase structure either exists in a thermoplastic resin matrix before the melting and mixing or still exists in the multi-phase structure form after the melting and mixing. Consequently, the examiner has not carried the burden of establishing a *prima facie* case of anticipation of the appellants' claimed invention. Also, the examiner has not explained why it would have been obvious to one of ordinary skill in the art to modify Sakazume's composition such that

the appellants' claimed invention is obtained. Accordingly, we reverse the examiner's rejections over Sakazume.

Rejections over Orikasa

Orikasa discloses a thermoplastic resin composition which contains 1-99 wt% of a polyarylate resin, 1-99 wt% of at least one of a polyamide resin and a polyarylene sulfide resin, and 0.1-100 parts by weight, based on 100 parts by weight of the above resins, of a multi-phase structure thermoplastic resin composed of 5-95 wt% of an epoxy group-containing olefin copolymer and 5-95 wt% of a vinyl polymer or copolymer obtained from at least one kind of vinyl monomer, either or both components of the multi-phase structure being in the state of a dispersed phase having a particle diameter of 0.001 to 10 Fm (col. 1, line 59 - col. 2, line 6; col. 6, lines 19-24). Like Sakazume, Orikasa discloses blending the multi-phase structure with the other components of the composition by mixing and melting (col. 2, lines 7-41; col. 6, line 66 - col. 7, line 42; col. 9, lines 25-34).

The examiner' rationale for rejecting the claimed invention over Orikasa is the same as that for rejecting the claimed invention over Sakazume (answer, page 3). We reverse

the examiner's rejections over Orikasa for the reasons given above with respect to the rejections over Sakazume.

Rejection over EP '280 in view of Epstein '859 and Epstein '358

EP '280 discloses a "composition comprising an amorphous polymer, a crystalline polymer and a rubber-like polymer, wherein the rubber-like polymer has a network structure in the amorphous polymer" (page 3, lines 7-9). The crystalline polymer forms a continuous phase, the amorphous polymer forms a continuous phase intermingled with the crystalline polymer or forms a dispersed phase in the crystalline polymer, and the rubber-like polymer is dispersed in the amorphous polymer, at least part of the rubber-like polymer having a continuous stringy or two-dimensional or three-dimensional network structure (page 3, lines 13-16; page 6, lines 1-12). The exemplified rubber-like polymers include ethylene-propylene rubber, ethylene-butene rubber and ethylene-propylene-butene rubber (page 5, lines 20-24).

The examiner relies upon the Epstein references for a suggestion to use as the rubber-like polymer in the EP '280 composition an ethylene polymer having units derived from

either unsaturated epoxy monomers or unsaturated acid anhydride monomers (answer, page 4).

The examiner argues that figures 3-5 of EP ‘280 show a rubber-like polymer in the form of a network structure in an amorphous polymer such that the rubber-like polymer partially encapsulates the amorphous polymer (answer, pages 4-6). The partial encapsulation referred to by the examiner appears to be the regions in figures 3-5 where the rubber-like polymer, which is the dark portion in each figure, partially surrounds the amorphous polymer, which is the light portion. Even if the examiner’s argument is correct, for the following reason it is not persuasive.

The rubber-like polymer in figures 3-5 of EP ‘280 is not an ethylene polymer, let alone one having units derived from unsaturated epoxy monomers or unsaturated acid anhydride monomers as required by the appellants’ claims. The rubber-like polymer in figures 3 and 4 is a styrene-butadiene block copolymer, and in figure 5 it is a hydrogenated styrene-isoprene block copolymer (page 8, lines 36-43; page 10, lines 3-8; page 11, lines 3-8). The examiner has not provided evidence which shows that if, instead of being a styrene-

butadiene block copolymer or a hydrogenated styrene-isoprene block copolymer, the rubber-like polymer were an ethylene polymer having units derived from unsaturated epoxy monomers or unsaturated acid anhydride monomers, the network structure would be comparable to the network structures shown in figures 3-5 of EP ‘280 and, therefore, would provide the partial encapsulation relied upon by the examiner.

The examiner, therefore, has not carried the burden of establishing a *prima facie* case of obviousness of the claimed invention over EP ‘280 in view of Epstein ‘859 and Epstein ‘358. Consequently, we reverse the rejection over this combination of references.

DECISION

The rejections of claims 1 and 13 under 35 U.S.C. §§ 102(b) and 103 over either Sakazume or Orikasa, and the rejection of claims 1, 8 and 13 under 35 U.S.C. § 103 over EP ‘280 in view of Epstein ‘859 and Epstein ‘358, are reversed.

REVERSED

EDWARD C. KIMLIN Administrative Patent Judge	)	
BRADLEY R. GARRIS Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
TERRY J. OWENS Administrative Patent Judge	)	

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Appeal No. 1999-0268
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DECISION: REVERSED

Prepared: July 19, 2002